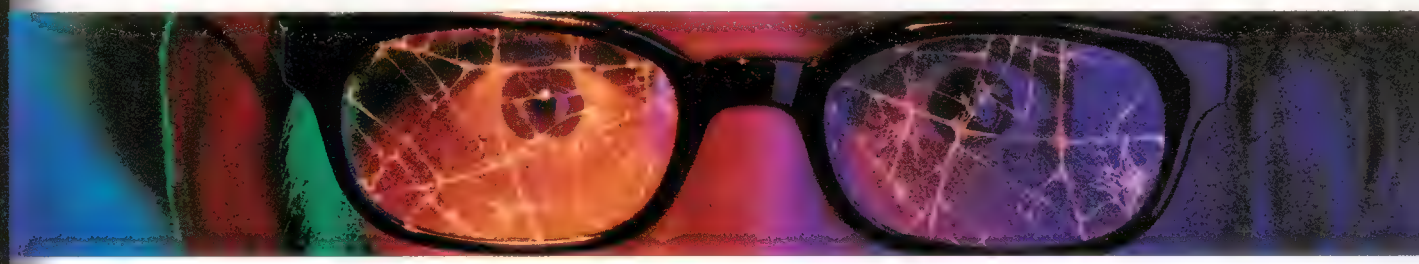
Sound Off

Use the Net as a Cheap Alternative to Long-Distance Calling

by Kevin M. Savetz



Forget Internet Relay Chat. Forget about trying to talk to your fellow Internet users using the Unix "talk" command. Forget about those hackish Web chat sites. If you want to talk with others on the Internet, just say "hi."

In recent months, several programs have become available that let you, if you're equipped with a multimedia computer and special software, speak in real-time over the Internet, using the network like a telephone. Some of the available programs that do voice on the net are free. Others are commercial. Most of these products are ready for prime time, though others are still being tested.

Imagine doing your regular online thing – maybe reading your e-mail or checking out some Web pages – when the computer "rings." It's an incoming call. You switch to your audioconferencing software, click "answer," and then you're chatting in real-time with your boss, your mom, or anyone else with an Internet connection, anywhere in the world. All it takes is a Mac, Windows, or OS/2 PC with a microphone and sound card, a SLIP or PPP connection, and a modem or a LAN. Amazingly, for most of these programs, a 14.4 Kbps modem is enough to transmit intelligible voices, and even 9600 bps is sometimes enough bandwidth.

CyberPhone's software (http://magenta.com/cyberphone/) provides excellent sound quality.

Audioconferencing programs work by digitizing your speech and sending the digital data over the Internet, compressing it along the way. The person you're talking to must have compatible software that decompresses the audio and plays your voice out of the computer's speaker.

I'm not suggesting that your PC and modem will replace Ma Bell anytime soon. The obvious drawback of online audio is that you can only talk to associates with

The Software You Need

CU-SeeMe
Macintosh and Windows
http://cu-seeme.cornell.edu/
CU-SeeMe is a project of Cornell University that allows for audio and videoconferencing over the Internet. Sound quality is good, but you might have problems with a 14.4 Kbps connection.

Cyberphone
Windows and Unix
http://magenta.com/cyberphone/
Cyberphone offers useful features, such as a good user directory, text-based chat, and user-to-user file transfers. It also provides excellent sound quality.

DigiPhone
Windows
http://www.planetcers.com/
DigiPhone comes by itself, or in a complete package that includes a Web browser and functionality for e-mail, Telnet, FTP, voice messaging and caller ID.

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Intercom
Windows
http://www.telescape.com/html/HOME-PG.HTM
Although it doesn't have a user directory, Intercom allows integration with your e-mail and file transfer programs. It also lets you display a picture of yourself so other users can see what you look like.

Internet Phone
Macintosh and Windows
http://www.vocaltec.com/
Internet Phone runs on top of Internet Relay Chat, providing you with a list of online users and topics of conversation to choose from. It makes it easy to find new people to chat with. Its proprietary compression scheme, though, means that it is incompatible with other applications.

Maven
Macintosh
ftp://sunsite.unc.edu/pub/packages/infosystems/maven
Maven was the first Internet audio conferencing tool for the Macintosh. It is free software that can talk to other Macs that are running Maven, as well as to the Unix "vat" program.

NetPhone
Macintosh
http://www.emagic.com/
NetPhone is a robust commercial program that offers many features unavailable in other Mac products.

PowWow
Windows
http://www.tribal.com/
Providing delayed voice communication, PowWow is one of the better personal communications applications. If its voice communications are improved to support real-time communication, PowWow would easily be one of the best applications available.

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similarly equipped hardware. Although there are millions of folks with Internet accounts, it will probably be many years before all of your friends and relatives are on the net.

Audio Quality

Surprisingly, if you have a good Internet connection, the sound quality is comparable to what you get with a regular phone call. However, sound quality varies dramatically between applications, and depends largely on the bandwidth limitations at each end. If you have a good local network connection, then some applications provide sound quality that is significantly better than a regular telephone call, because they use 16-bit signals rather than the 8-bit signals used in regular phone lines.

The quality of the audio you'll send and receive depends on the application you're using, the speed of your computer, and the compression method used. Still, talking across the country or around the world for the cost of an Internet connection is amazing, and easy on the wallet. Depending on the software, talking over the Internet may be more like using CB radio than a telephone. Unlike a phone conversation, which you can interrupt, or inject "uh-huhs" into, several of today's programs allow only one person to speak at a time. It's called half-duplex conversation, and it means that you must wait for the speaker to release the line before you can respond.

Even if your software allows full-duplex, real-time conversation, there's always a short but sometimes noticeable gap between when you speak and when your associate hears your words. The modems themselves introduce about a quarter-second of "latency" in the sound transmission after doing their work of buffering, error correcting, and data compression.

Some audioconferencing programs use proprietary compression methods that make it impossible to talk with users of other products. To talk to others using different software, you need to have the same type of connection scheme and the same type of

Telescape's Intercom (http://www.telescape.com/html/HOME-PG.HTM) is Windows-only software that lets you display a picture of yourself for other users to see.

Webphone (http://www.itelco.com/) offers advanced features such as voice mail, WWW integration, multiple lines for simultaneous calls, a message board for text communications, and a user directory.

PowWow, for Windows only (http://www.tribal.com/) is one of the better personal communications applications.

compression. It may also be possible to talk to users using a different computer platform (PC, Mac, or Unix) than you: Speak Freely (**http://www.fourmilab.ch/netfone/windows/speak_freely.html**) and Cyberphone (**http://magenta.com/cyberphone/**) offer full compatibility between Windows and Unix users. CU-SeeMe (**http://cu-seeme.cornell.edu/**) and Internet Phone (**http://www.vo caltec.com/**) offer compatibility between Mac and PC users using the same application.

Some programs go far beyond merely emulating a telephone. Toys are available in various programs that let an answering machine answer your digital telephone when you're not there; or give you the ability to have a conference call among three or more people; or provide encrypted data to protect your conversation from hackers.

The phone companies aren't very pleased with the Internet telephony trend. A group of 130 telecommunications companies called the America's Carriers Telecommunication Association (ACTA) has asked the Federal Communications Commission to stop companies from selling software and hardware products that enable the use of the Internet for long-distance voice communication (*The Net* June 96, page 17). ACTA submits that it is not "in the public interest to permit long-distance service to be given away, nor is it in the public interest for these select telecommunications carriers to operate outside the regulatory requirements applicable to all other carriers." For more information, visit the VONYES Coalition home page (**http://www.von.com/vonyes/**).

Large long-distance companies, such as AT&T, are less concerned with net telephony – after all, they also make money by selling Internet bandwidth to Internet service providers.

A free program, TeleVox (http://www.voxware.com/) lets you change the way your voice sounds using "voice fonts."

Internet Phone (http://www.vocaltec.com/) offers compatibility between Mac and PC users using the same application.

PGPfone
Macintosh and Windows 95
http://web.mit.edu/network/pgpfone/
Hailing from the makers of the PGP encryption scheme, PGPfone offers audio encryption over the Internet. The encryption scheme used in the application is only available in the U.S. This is a free program.

Speak Freely
Windows and Unix
http://www.fourmilab.ch/netfone/windows/speak_freely.html
Speak Freely is one of the best applications available. It offers voice mail and encryption, and usually provides excellent sound quality.

TeleVox
Windows
http://www.voxware.com/
A free program, TeleVox lets you change the way your voice sounds using "voice fonts."

Webphone
Windows
http://www.itelco.com/
Webphone gives users a slick interface that looks like a cellular phone. It also offers advanced features, such as voice mail, World Wide Web integration, multiple lines for simultaneous calls, a message board for text communications, and a user directory.

Webtalk
Windows
http://webtalk.quarterdeck.com/
Webtalk offers good integration with the World Wide Web, and provides nice sound quality. Other features include a message board for text, and a user directory.

For More Information

A complete and up-to-date guide to Internet telephony can be found at the Internet Telephony page (http://rpcp.mit.edu/~asears/main.html).

Also, check out the FAQ, "How can I use the Internet as a telephone?," at http://www.northcoast.com/~savetz/voice-faq.html or http://rpcp.mit.edu/~asears/voice-faq.html.